

REMARKS

Applicants have carefully reviewed and considered the Office Action mailed on December 27, 2007, and the references cited therewith.

Claims 7-8, 18, 21-22 and 25-26 are amended; as a result, claims 1-26 are now pending in this application.

§ 103 Rejection of the Claims

Claims 1-6, 15, 17, 19, 20, 23 and 24 were rejected under 35 USC § 103(a) as being unpatentable over Wang (U.S.2005/0152486 A1).

Applicants respectfully traverse the rejection of claims 1-6, 15, 17, 19, 20, 23 and 24 as follows:

Independent claims 1, 5, 15, 19 and 23 are respectfully asserted to distinguish over Wang reference. Wang describes a rake receiver which selects channel-tap locations based on the composite channel impulse response using channel-tap selection schemes: sequential search and heuristic search. Further, Wang describes a method of recovering data in a received signal sent in a communication media, where channel-tap locations are assigned to suppress the interference noises by sequential search schemes or heuristic search schemes based on estimated composite channel impulse responses. In paragraph [0069], Wang describes an L-rake receiver in that the channel taps are assigned according to the channel conditions. In contrast, independent claims 1, 5, 15, 19 and 23 recite an adaptive Rake receiver that can be used to compensate for signal distortions with the use of non-uniform tap delay filters. The non-uniform tap delay filters are used to output an adaptively channel matched signal for decoding. Further the independent claims 1, 5, 15, 19, and 23 recite the adaptable non-uniform Rake filter including multiple non-uniform tap delay filters that extract delay information from each selected Rake filter coefficient and to configure structure of the multiple non-uniform tap delay filters. Support for this can be found in page 2, lines 3-5 and in claims 1, 5, 15, 19 and 23. Independent claims 1, 5, 15, 19 and 23 should thus be found allowable, and such action is respectfully requested.

Claims 2-4, 6-8, 17-22 and 24-26 are dependent directly or indirectly from independent claims 1, 5, 15, 19 and 23 respectively, so they should be found allowable over Wang reference for the reasons presented above.

Applicants respectively assert that Wang reference fail to support a *prima facie* case of obviousness because as mentioned above, the cited reference fail to teach or suggest all of the elements of Applicants' invention.

For the above reasons, claims 2-4, 6-8, 17-22 and 24-26 should be found to be allowed over Wang and Applicants respectively request that the rejection of above claims as unpatentable over Wang should be withdrawn.

Claims 9-14 and 16 were rejected under 35 USC § 103(a) as being unpatentable over Wang. (U.S.2005/0152486 A1) in view of Teder et al. (US Patent 5,544,156).

Applicants respectfully traverse the rejection of claims 9-14 and 16 as follows:
Independent claims 9 and 12 and dependent claim 16 are respectfully asserted to distinguish over Wang and Teder references. Applicants remark, Wang describes a rake receiver which selects channel-tap locations based on the composite channel impulse response using channel-tap selection schemes: sequential search and heuristic search. Further, Wang describes a method of recovering data in a received signal sent in a communication media, where channel-tap locations are assigned to suppress the interference noises by sequential search schemes or heuristic search schemes based on estimated composite channel impulse responses. In paragraph [0069], Wang describes an L-rake receiver in that the channel taps are assigned according to the channel conditions, as opposed to the uniformly spaced channel taps in a conventional LMMSE receiver. Furthermore, Wang describes fewer taps reduces the receiver complexity and improves the numerical stability. In contrast, independent claims 9 and 12 and dependent claim 16 recite an adaptive Rake receiver that can be used to compensate for signal distortions with the use of non-uniform tap delay filters. The non-uniform tap delay filters are used to output an adaptively channel matched signal for decoding. Further, the adaptable non-uniform Rake filter including multiple non-uniform tap delay filters to extract delay information from each selected Rake filter coefficient and to configure structure of the multiple non-uniform tap delay filters. Support for this can be found in page 2, lines 3-5 and in claims 9 and 12. Furthermore, the input module then inputs each of the received one or more channel components through the configured non-uniform tap delay filters which outputs an adaptively channel matched signal. The equalizer and the demodulator receive the adaptively channel matched signal and output a decoded signal. Support

for this can be found in page 7, lines 26-27 and page 8, lines 1-2. Independent claims 9 and 12 and dependent claim 16 should thus be found allowable, and such action is respectfully requested.

Claims 10-11 and 14 are dependent directly or indirectly from independent claims 9 and 12 respectively, so they should be found allowable over Wang and Teder references for the reasons presented above.

Applicants respectively assert that Wang and Teder references fail to support a *prima facie* case of obviousness because as mentioned above, the cited reference fail to teach or suggest all of the elements of Applicants' invention.

For the above reasons, claims 9-14 and 16 should be found to be allowed over Wang and Teder and Applicants respectively request that the rejection of above claims as unpatentable over Wang should be withdrawn.

Allowable Subject Matter

Claims 7-8, 18, 21-22, 25 and 26 have been amended accordingly.

Conclusion

Applicants respectfully submit that the claims 1-26 are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (603-888-7958) to facilitate prosecution of this application.

Respectfully submitted,

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